Business & Enterprise Systems

Integrity - Service - Excellence

The Integrated Master Plan (IMP) and the Integrated Master Schedule (IMS)

Current: 10 March 2015

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Expectations

- **This course is designed to introduce the Integrated Master Plan and Integrated Master Schedule (IMS) concept to Project Managers and Team Members**

- **This course will <u>not</u> teach you everything you need to know about integrated planning and scheduling to be an effective Program/Project Manager**

- **This course does <u>not</u> replace structured DAU course studies in the Program Management or Systems Engineering disciplines**

Introductions

- Please tell the class about yourself…
  - Name
    - Program or Project Assignment?
    - Assigned Role?

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Overview

- Integrated Master Plan (IMP)
- Integrated Master Schedule (IMS)
- IMP / IMS Relationship
- Recap and Feedback

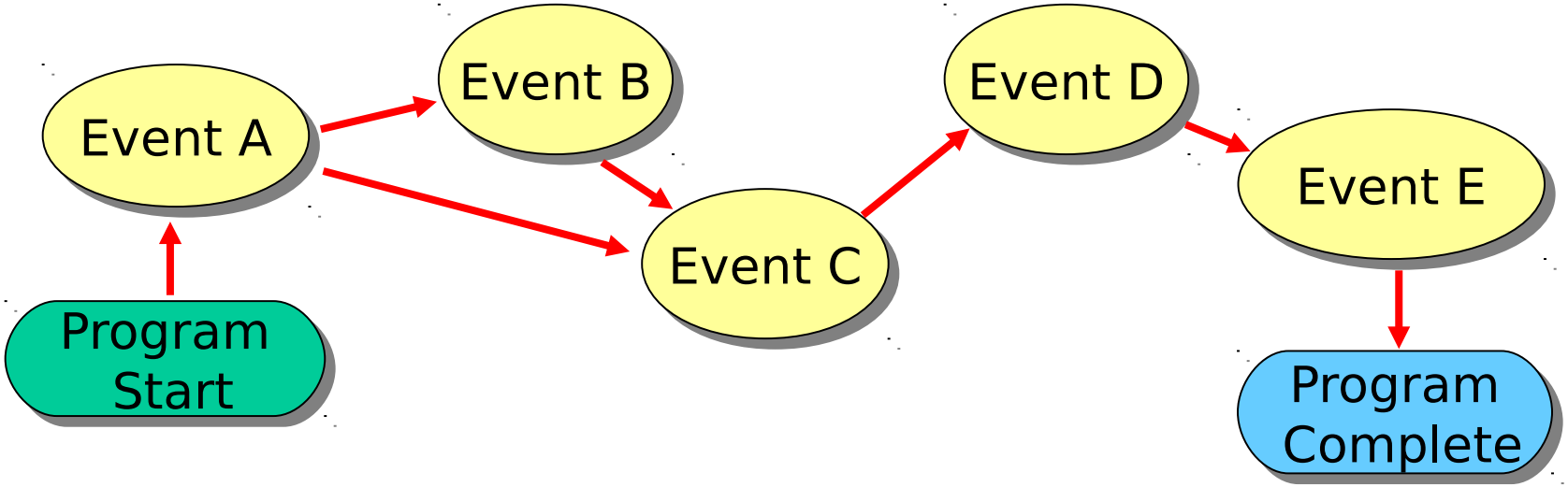
Integrated Master Plan (IMP)

- **Integrated Master Plan (IMP): An *event-driven* plan consisting of a hierarchy of program events – defines program Scope**
  - **Each event being supported by specific accomplishments, and each accomplishment associated with specific criteria to be satisfied for its completion.**
  - **The IMP is a narrative *lifecycle* plan explaining the overall management of the project.**
  - **Account for contractor and government events**
  - **Foundation for the project Integrated Master Schedule (IMS)**
  - **NOT tied to specific dates**

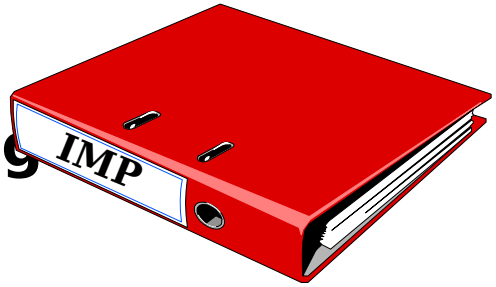
SOURCE: DoD IMP & IMS Preparation and Use Guide, Oct 2005

A valuable tool for both proposals and project execution

IMP Description



- **Event-driven plan for executing a program**
- **Not a calendar-based product**
- **Tool used to control and manage prog**



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Preparing the IMP

- **Complete the appropriate Systems Engineering Process (SEP) Tailoring Worksheet (TWS)**
- **Identify events, accomplishments needed, and associated entry and exit criteria**
- **Consolidate government and contractor inputs into a single IMP**
- **Prepare Sections:**
  1. **Introduction**
  2. **Events, Accomplishments, and Criteria**
  3. **Narratives**
  4. **Glossary**

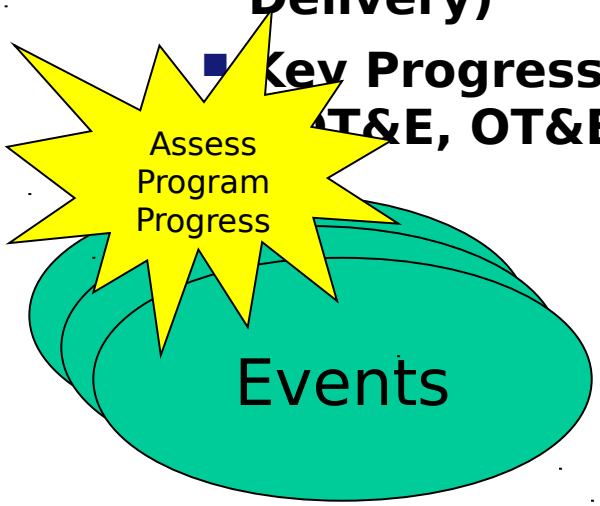
IMP Basic Content

- **Section 1: Introduction**
  - **Program Description**
  - **Program Organization / Integrated Product Teams (IPTs)**
  - **Assumptions / Ground Rules**
  - **Government/Contractor Relationships**
  - **IMP Organization**

- **Section 2: Events, Accomplishments, and Criteria**
  - **Program Implementation Strategy**
  - **Major Program/Technical Events, Reviews, and Milestones**
    - **Identify roles, responsibilities, and accountable agencies**
  - **Interdependencies between Critical Events**

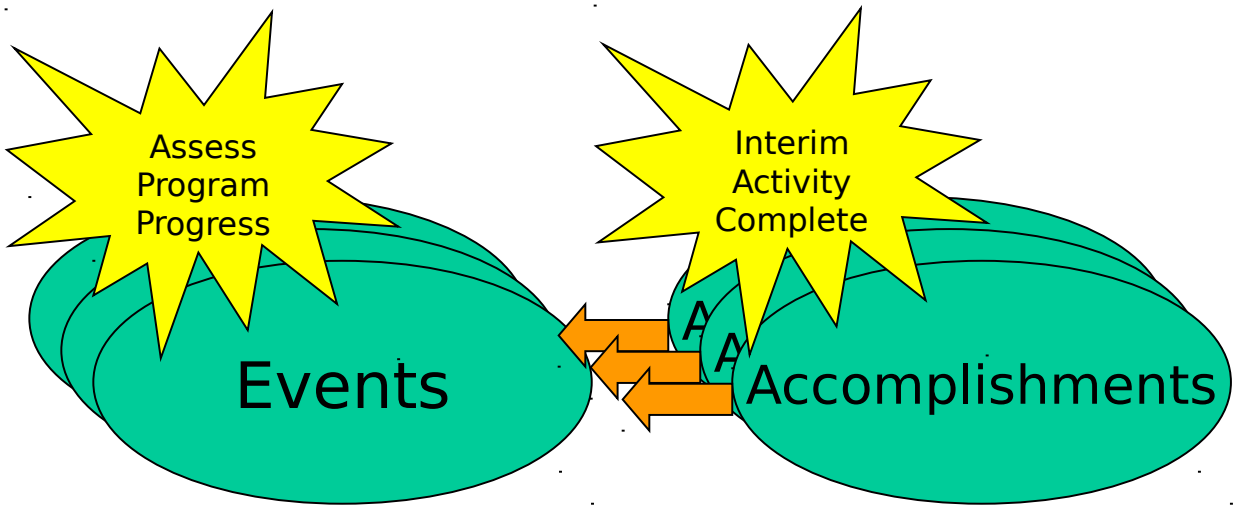
Identify Events

- **Events are the foundation of the IMP (IMP Level 1)**
  - **Logically sequenced points to assess program progress**
  - **May include:**
    - **Milestone and Phase Reviews**
    - **Key Contractor Deliveries (Product or Documentation Delivery)**
    - **Key Progress Indicators and Demonstration Points (DT&E, OT&E, etc.)**



Identify Significant Accomplishments

- **Significant Accomplishments are activities or steps whose completion indicates progress toward events (IMP Level 2)**
  - **There are usually 2 or more significant accomplishments for each event**
  - **May include completion of large activities, major work packages**



Identify Criteria

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- **Definitive measures/indicators that verify significant accomplishment completion (IMP Level 3)**
  - **Completed work effort; minor work packages; approvals; critical process activities**

"Code development 90% complete"-- doesn't get it!

Sample IMP, Section 2

Level 1 - Event

Level 2 – Accomplishment

Level 3 - Criteria

Activity #	Event Accomplishment Criteria	WBS REF
A	Event A - Post Award Conference/Initial Baseline Review (PAC/IBR)	-
A01	Management Planning Reviewed	-
A01a	Program Organization Established	1.2.1
A01b	Initial Configuration Management Planning Completed	1.2.2, 1.2.3
A01c	Program Schedule Reviewed	1.2.1
A01d	Risk Management Program Reviewed	1.2.1
A02	Baseline Design Reviewed	-
A02a	Requirements Baseline Completed	1.3.1
A02b	Review of Existing Baseline Engineering/Kit Drawings Completed	1.1.1
A03	PAC/IBR Conducted	-
A03a	PAC/IBR Meeting Conducted	1.2.1
A03b	PAC/IBR Minutes and Action Items Generated	1.2.1
B	Event B - Critical Design Review (CDR)	-
B01	Design Definition Completed	-
B01a	Design Deltas To Baseline Identified	1.3.1
B01b	Drawings Completed (Baseline & Deltas)	1.1.1, 1.3.1
B02	System Performance Assessment Reviewed	-
B02a	Initial Weight Analysis Completed	1.3.1
B02b	Electrical Current Consumption Report Completed	1.3.1
B02c	Initial Reliability, Maintainability, & Availability Predictions Completed	1.3.3
B02d	System Safety Hazard Analysis Completed	1.3.4

IMP Basic Content (Cont'd)

- **Section 3: Narratives**
  - Narrative descriptions of task and process of execution
  - Describes measureable criteria for accomplishments
  - Administrative activities (action items, decision analysis processes, decision authorities)
  - Contract management activities (administrative changes, modifications, etc.)
  - Conflict resolution
- **Section 4: Glossary**
  - Terms and Acronyms

IMP Summary

- The IMP is an event-based plan for program execution
  - Government and contractor consolidated plan
  - Documents roles/responsibilities/accountable agencies
  - Consists of four basic sections
    - Introduction
    - Events, Accomplishments, and Criteria
    - Narratives
    - Glossary
- Foundation for the project IMS

Integrated Master Schedule (IMS)

- **Integrated Master Schedule (IMS): An integrated networked schedule containing all detailed planning and work packages**
  - **Describes the execution of the project; estimates completion**
  - **Event-driven, but calendar-based – NOT calendar driven**
  - **Assists in determining projected and actual cost estimates (Earned Value Management – EVM)**
  - **Contains tasks to support development of products**
  - **Contains interdependent tasks, events, and accomplishments to meet established criteria**
  - **Directly traceable to the IMP and WBS**
  - **Must account for contractor and government events**
  - **Supports "what-if" analysis**
  - **Supports project risk assessment**

SOURCE: DoD IMP & IMS Preparation and Use Guide, Oct 2005 & AFLCMC Standard Process for Develop Program Schedule

IMS Structure

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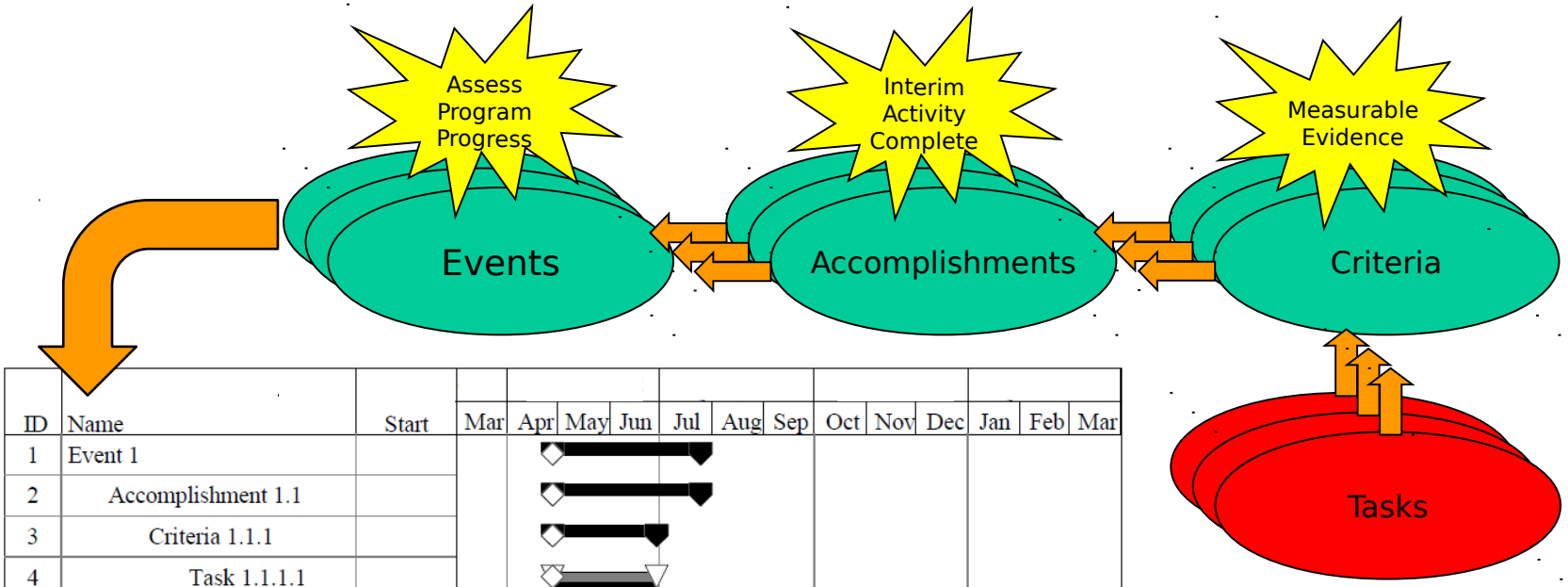
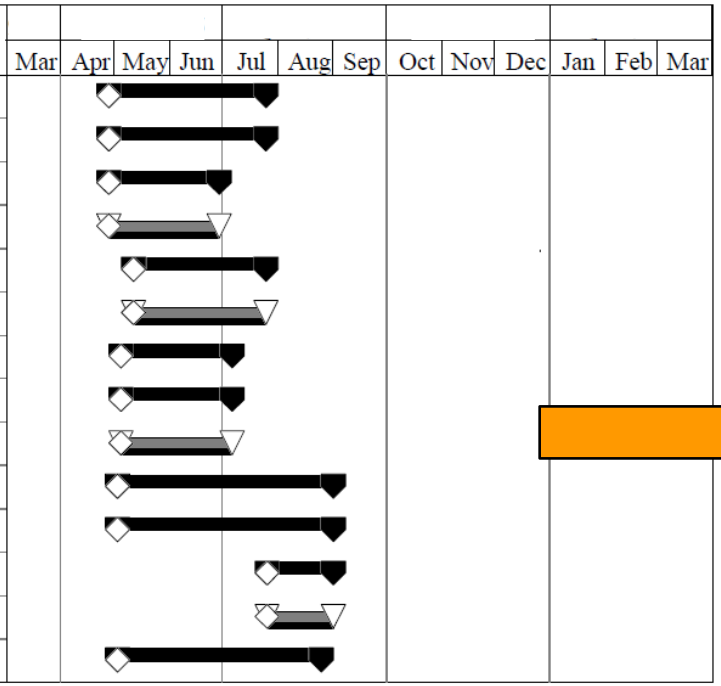


ID	Name	Start
1	Event 1	
2	Accomplishment 1.1	
3	Criteria 1.1.1	
4	Task 1.1.1.1	
5	Criteria 1.1.2	
6	Task 1.1.2.1	
7	Accomplishment 1.2	
8	Criteria 1.2.1	
9	Task 1.2.1.1	
10	Event 2	
11	Accomplishment 2.1	
12	Criteria 2.1.1	
13	Task 2.1.1.1	
14	Criteria 2.1.2	



Preparing the IMS

- Review the project TWS, IMP and WBS
- Review the Business and Enterprise Systems (BES) Process Directory (BPD) for the Mandatory Standard Process on Develop Program Schedule
- Determine method for producing and managing the schedule
  - Best Practice: Microsoft Project
- Suggested Preparation Sequence:
  1. Define IMS initial parameters and resources
     - Start Date, Non-Working Days, Resource Pool
  2. Create Release and Phase Tasks
  3. Define Products, Events, and Accomplishments for each phase and establish sequence to meet criteria
  4. Define interdependencies between schedule entities
  5. Refine task durations
  6. Assign/allocate resources; coordinate schedule with stakeholders
  7. Baseline Schedule

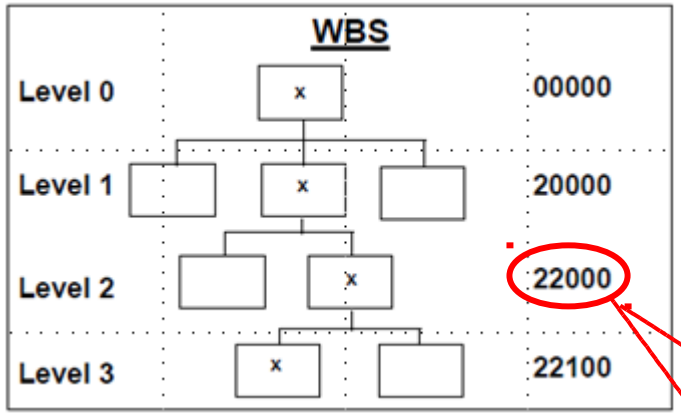
IMS Quality Control

- Are all IMP Events/Accomplishments/Criteria, CLINs, Tasks & Deliverables included in the IMS?
- Does the IMS include contractor and government activities?
- Are interdependencies for tasks identified?
- Are task durations reasonable?
- Is the scheduled resource loaded? Have resources been “leveled”?
- Have all stakeholders reviewed/approved the IMS?
- Is the Critical Path logical?
- Can the IMS be managed to identify current status?
- Is the IMS under Baseline control? Are changes controlled via a disciplined change control process?

IMS Summary

- **Integrated Master Schedule (IMS): An integrated networked schedule containing all detailed planning and work packages**
  - **Integrated contractor and government schedule**
  - **Communicates what is expected and when it's expected**
  - **Describes the execution of the project; estimates completion**
  - **Event-driven, but calendar-based – NOT calendar driven**
  - **Aligns tasks, criteria, significant accomplishments, and events to product delivery**
  - **Key indicator of project status**
  - **Provides input for risk assessments**

IMP / IMS Relationships



Consistent numbering between the WBS, IMP, and IMS helps establishes traceability

IMP

Event X: ABCDEF

22000-01	XXXYYY ZZZAAA	(A)
		(B)

IMS

Event X: ABCDEF

22000-01	XXXYYY ZZZAAA	(-01)
		(-02)

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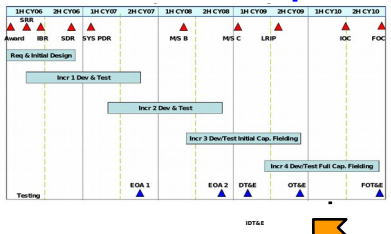
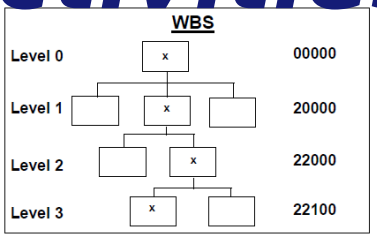
IMP/IMS Linkages to Program Activities

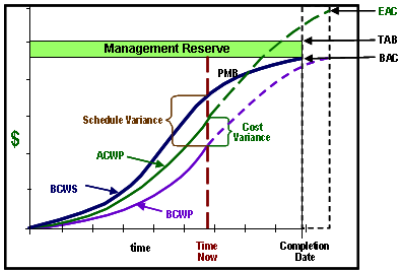
Government Roadmap



WBS



EVMS



IMP

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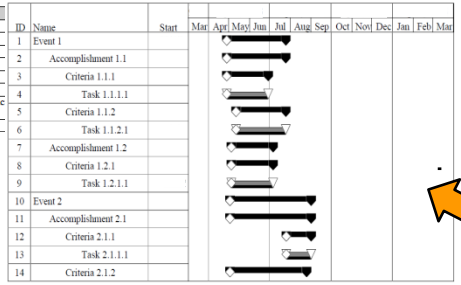
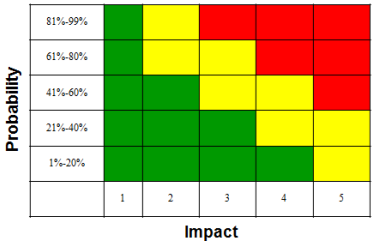
IBR

SOW

IMS



Risk and Issue Mgt



SEP

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IMP / IMS Linkage to Program Activities

- **Government Roadmap**
  - Used as the foundation to generate the IMP
- **Work Breakdown Structure (WBS)**
  - IMP/IMS should have traceability to WBS; consistent numbering
- **Earned Value Management System (EVMS)**
  - IMS execution feeds EVMS data; provides cost/schedule assessment
- **Integrated Baseline Review (IBR)**
  - IMS and EVMS used during IBRs
- **Statement of Work (SOW)**
  - IMS should directly trace to the SOW
- **Systems Engineering Plan (SEP)**
  - IMP and SEP show organizational and task integration; SE discipline
- **Risk and Issue Management**
  - Risk and Issue Management tasks incorporated into the IMS

IMP / IMS Summary

- **Two different purposes, but mutually supportive:**
  - **IMP is event-based with specific accomplishments & criteria**
  - **IMS is time-based with tasks, durations and interdependencies**
- **Both products are valuable management tools:**
  - **Provides a systematic approach to planning, scheduling, and executing a project**
  - **Provides tools for day-to-day execution/monitoring (status)**
  - **Provides the basis for evaluation of contractor performance**
  - **Standard method for communication to senior leadership**
  - **Supports budgeting decisions**
  - **Provides input into project risk and issue management activities**

Recap and Feedback

- **Do you have any unanswered questions?**
- **Did we meet the objectives as stated?**
- **Don’t forget to request your CLPs!**
- **Please fill out a critique so we can improve this class for those who may attend in the future; written suggestions are very helpful**